

<STRUCTURE AND PHYSIOGRAPHY OF INDIA>



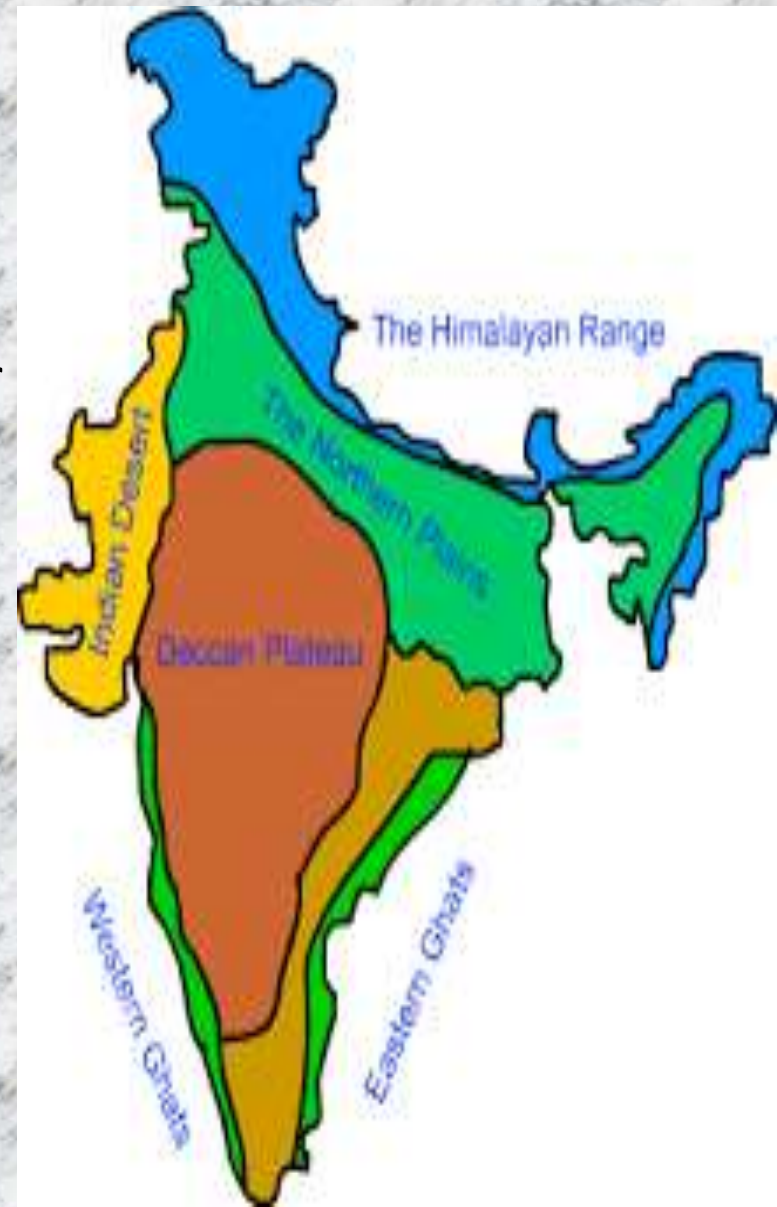
STRUCTURE OF INDIA

- Our Earth is approximately 460 million years ago.
- The structure of India refers to various endogenic and exogenic forces that are operating inside and on the surface of earth.
- Based on Geologic structure and Geomorphic processes , India's Geologic structure is divided into three parts
- **1. THE PENINSULAR BLOCK**
- **2.THE HIMALAYAS AND OTHER PENINSULAR MOUNTAINS**
- **3. INDO-GANGA-BRAHMAPUTRA PLAIN**



PHYSIOGRAPHY OF INDIA

- Physiography is the sub field of Physical Geography that studies the physical patterns and processes of Earth.
- Processes like Erosion, Deposition, Transportation of sediments eroded, brought and carried away by various agents of gradation like water, wind glacier etc.
- Thus, Physiography of an area is the result of geological structure and process that operate on an area.
- The Physiographic division of India is divided into divisions:
 - **1.The Himalayas**
 - **2. The Northern Plains**
 - **3.The Peninsular Plateau**
 - **4.The Indian Desert**
 - **5.The Coastal Plains**
 - **6.The Islands.**



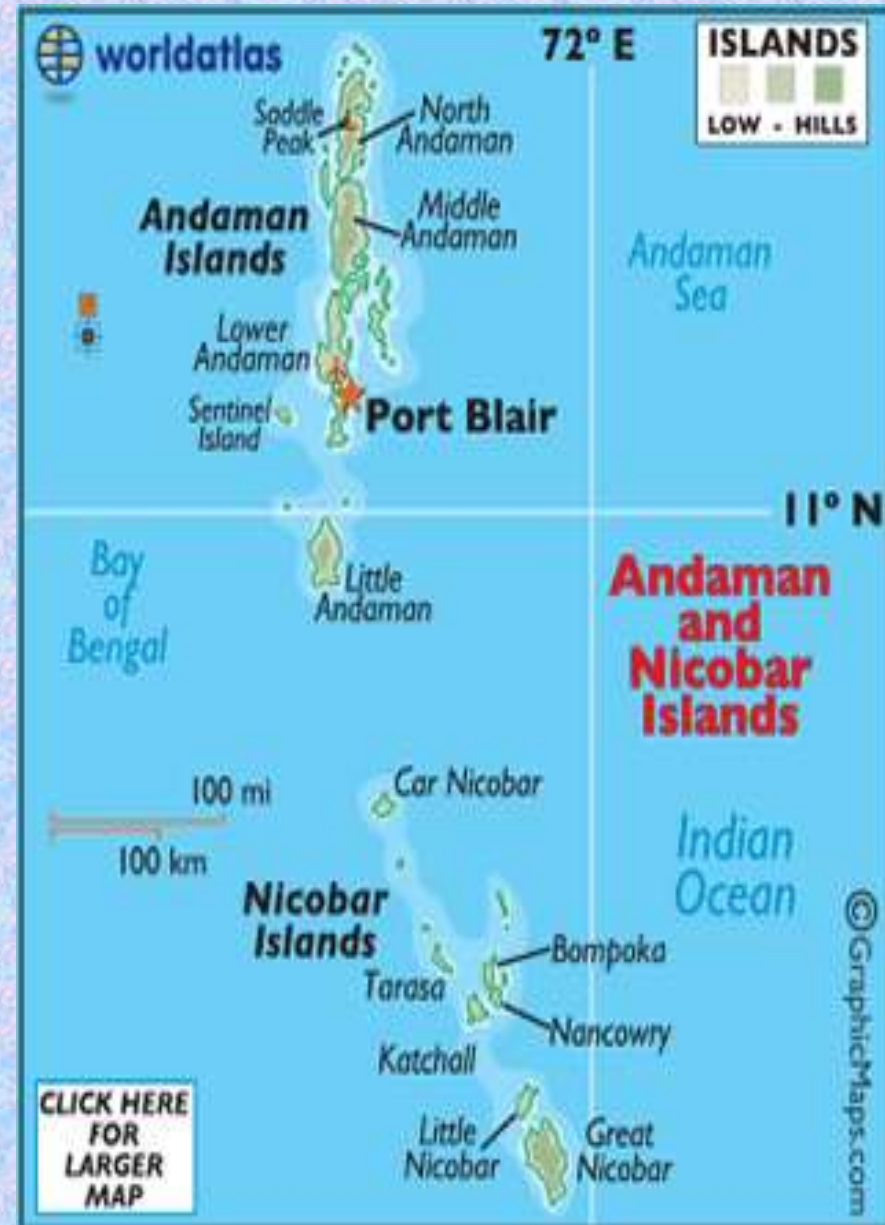
THE ISLANDS

- An Island is an area surrounded by water from all sides.
- Andaman and Nicobar islands are located in Bay of Bengal and Lakshadweep Islands are located in Arabian Sea.



ANDAMAN AND NICOBAR ISLANDS

- It consists of **572** small islands in it.
- It is divided into two groups i.e Andaman in North and Nicobar in South and both are separated by **Ten Degree Channel**.
- These islands are of **Volcanic** origin.
- **Barren Island** is the only active volcano which is situated here.
- **Saddle Peak** is the mountain peak found in Andaman Islands and Mount Thuilleer in Nicobar island.
- Its area is **7950 square kms**.
- **Port Blair** is the capital of Andaman and Nicobar Island.



- **LAKSHADWEEP ISLANDS:**
- These islands are located in Arabian sea.
- There are **36** islands in this island.
- **Minicoy** is the largest island in it.
- These islands are of **coral origin**.
- The area is **32** square kms.
- **Kavaratti** is the capital of these island.



THE INDIAN DESERT

- It is located on the northwest of Aravali range.
- This region receives low rainfall i.e 150 mm per year. It is because of this it has arid climate with low vegetation cover, It is because of this it is called as **MARUSTHALI**.
- Some of land features present here are like mushroom rocks, shifting sand dunes, oasis etc.
- Luni river is the only river that flows in this region.
- High evaporation and low rainfall makes it a water lacking region.
- Due to this the water turns into brackish and it is the main source of obtaining salt.



THE PENINSULAR PLATEAU

- **Situation**: it is in the south of northern plains.
- Its inverted triangular in shape with apex at Cape Comorin in Kanyakumari and base extending from Aravallis, Bundelkhand, Chotanagpur Plateau to Shillong Plateau.
- Its height ranges from 600-900 meters.
- **Characteristics**: This physiographic feature of India is the oldest and the most stable landmass of India.
- It is rich in black soil.
- It possess various geographical features like block mountains, rift valleys formed by rivers like Narmada and Tapi, deltas formed by various rivers like Mahanadi, Krishna, Godavari.



- **Origin:** it was a part of Gondwana land which broke up million years ago . It started drifting northwards and once it has rosed it have never submerged. it experienced subsidence too because of which rift valleys are formed by the river Narmada and Tapi.
- **Peninsular Plateau is divided into three parts**
- **1. The Deccan Plateau.**
- **2. The Central Highlands.**
- **3. The North-Eastern Plateau.**

- **1. DECCAN PLATEAU:**
- It is bordered by Western Ghats in west , Eastern Ghats in East and Vindhyas and Satpura Ranges in north.
- Western Ghats is known by different names like Sahyadri in Maharashtra, Nilgiri hills in Karnataka and Tamilnadu and Anamalai hills in Kerela.
- Deccan plateau consist of two parts i.e Western Ghats and Eastern Ghats.



WESTERN GHATS	EASTERN GHATS
1.It runs parallel to western coast of India	It runs parallel to eastern coast of India.
2.It is continuous in nature.	It is not continuous in nature but it is with gaps.
3.It is source of various big rivers.	It is not source of big rivers.
4.It is narrower than Eastern Ghats	It is broader than western Ghats.
5. Anaimudi (2685 m) is the highest peak of western ghats	Doda betta (2637) is the highest peak of Eastern Ghats.



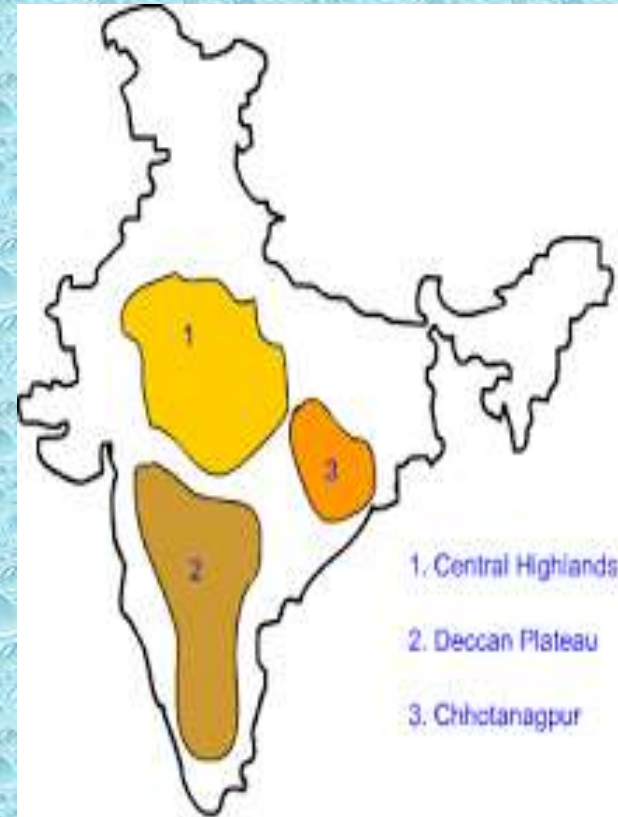
Western Ghats Mountain Range

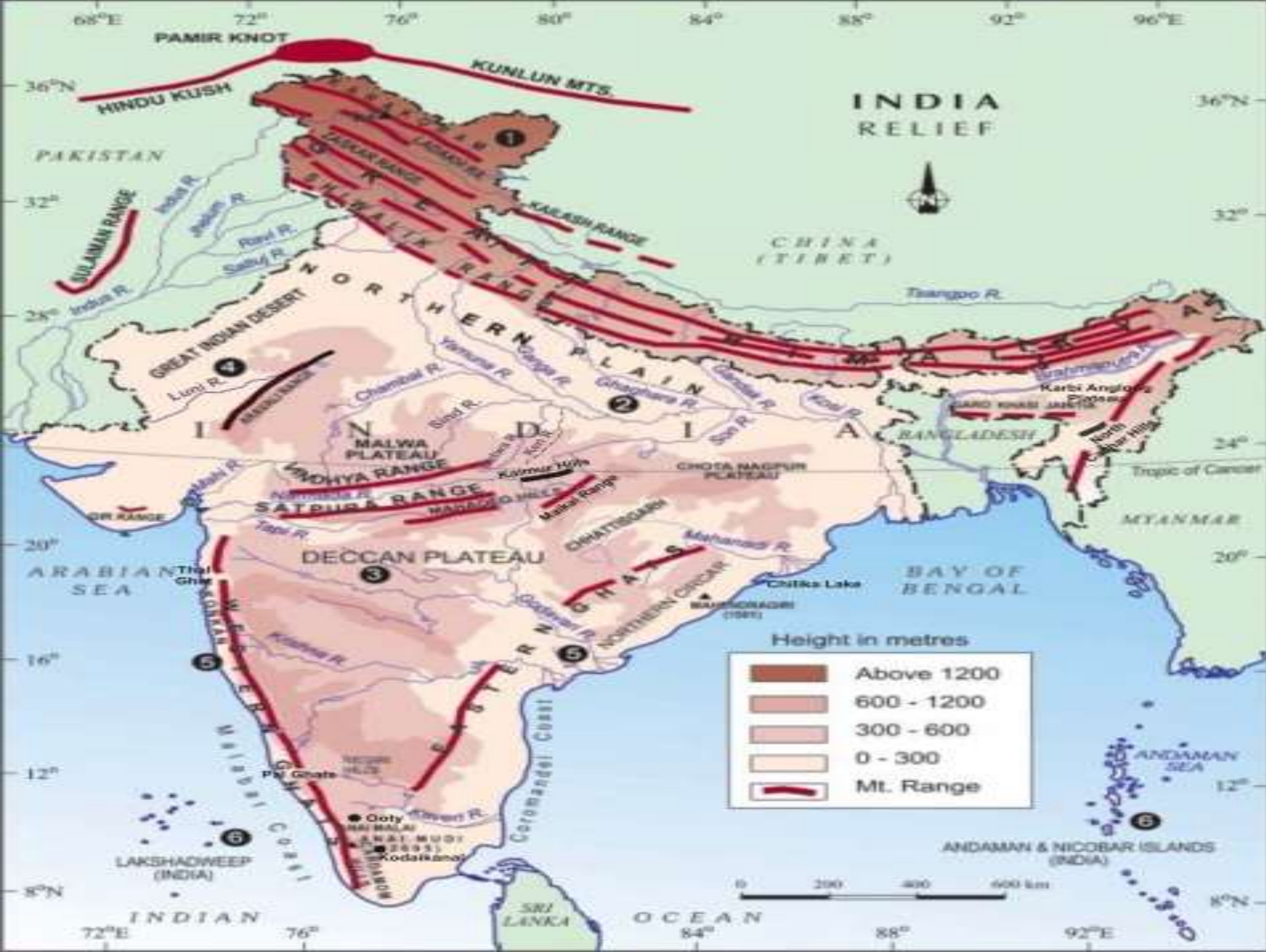
- **2. THE CENTRAL HIGHLANDS**

- It is bounded by Aravali range in west , Satpura range in north and Chottanagpur plateau in south.
- This is the example of relict mountains eroded by wind.
- Its elevation is 700-1000 m above sea level with its slope towards north east direction.

- **3. THE NORTH-EASTERN PLATEAU**

- It is the north-eastern extension of peninsular plateau but now it has gone detached in form of Meghalaya Plateau.
- Meghalaya Plateau is divided into three hills namey: 1. Garo hills 2. Khasi hills 3. Jaintia hills.
- Meghalaya Plateau receives highest rainfall and is rich in mineral resources like coal, iron ore and limestone.





COASTAL PLAINS

- India's coastline is 6100 kms.
- **The narrow strip of land between either side of the coast and mountain ranges is called Coastal Plains.**
- **The coastal plains is divided into two parts:**
 - **1. Western Coastal Plains**
 - **2. Eastern Coastal Plains**
- **1. Western Coastal Plains:**
 - Western coastal plains extend between Western Ghats and western coast of India.
 - It runs from Rann of Kutch in Gujarat to Kanyakumari in south.
 - The rivers flowing through this coastal plains does not make delta.
 - This coastal plain have indented which supports ports facility like Mumbai port is located on western coast of India.
 - It is narrow .
 - It is divided further into following coast:
 - **1. Konkan coast between Daman to Goa**
 - **2. Karnataka coast between Goa to Karnataka**
 - **3. Malabar Coast between Mangalore to Kanyakumari (Backwaters known as Kayals are also used for fishing, inland navigation etc.)**





Kathiawar Coast

Utkal Coast

Konkan Coast

Andhra Coast

Kannara Coast

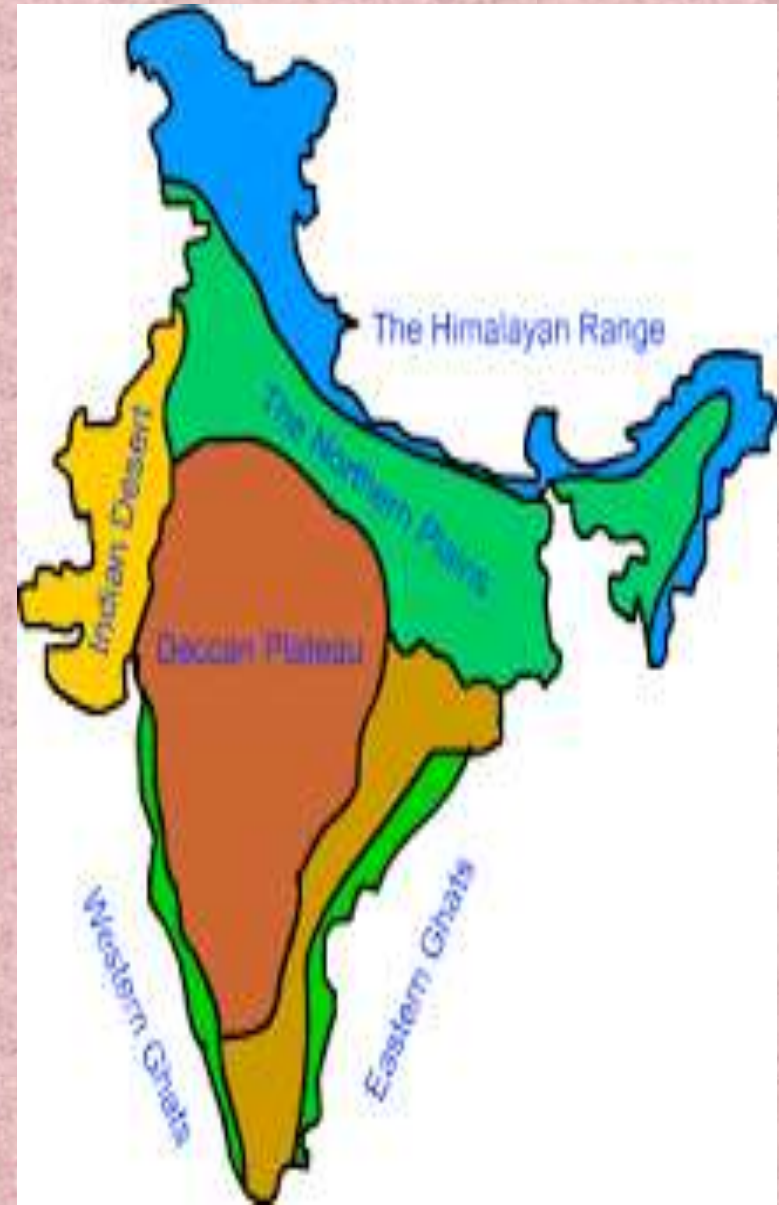
Coromandal Coast

Kanyakumali Coast

- **The Eastern Coastal Plains:**
- It extends between Eastern Ghats and Eastern coast of India.
- It extends from Kanyakumari to West Bengal.
- It is broader coastal plain as compared to Western Coastal Plain.
- Various rivers like Mahanadi, Godavari, Krishna river make the delta here.
- It is again divided into three parts:
 - 1. Coromandel Coast: Between Kanyakumari to Madras. It is also called Northern Circars.
 - 2. Andhra Coast: It extends between Krishna and Mahanadi river. It covers maximum part of Andhra Pradesh state.
 - 3. Utkal Plains: it extends from Ganga to Mahanadi delta . It covers maximum part of Odisha state.

NORTHERN PLAINS

- **Situation:** It stretch from Indus river in West to Ganga river in East and parallel to Himalayas.
- **Formation:** They are formed by deposition of sediments brought by rivers like Indus, Ganga and Brahmaputra and its tributaries.
- **Length:** 3200 kms.



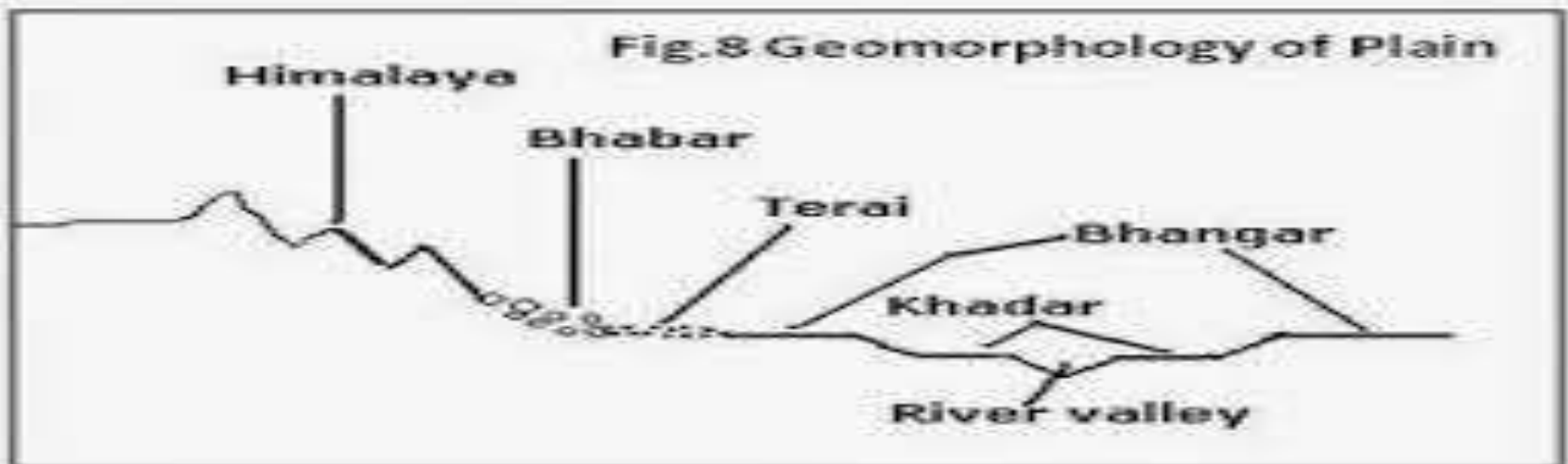
- Northern Plains is divided into following parts:
- **1. Bhabhar**
- **2. Tarai**
- **3. Khadar**
- **4. Bhangar**



- **1. Bhabhar:** They are south of Himalayas.
- The rivers coming from Himalayas deposit all material consisting of gravel, sand, clay. Due to absorbing capabilities of these materials, water percolates in the lower layers.
- It extends upto 8-11 kms
- **2. Tarai:** Tarai means full of water. It lies in south of Bhabhar plains. In this rivers/streams reemerge after they are being absorbed by the material like sand, silt, clay etc. and thus develop swampy conditions etc.
- Its length is 10-12 kms

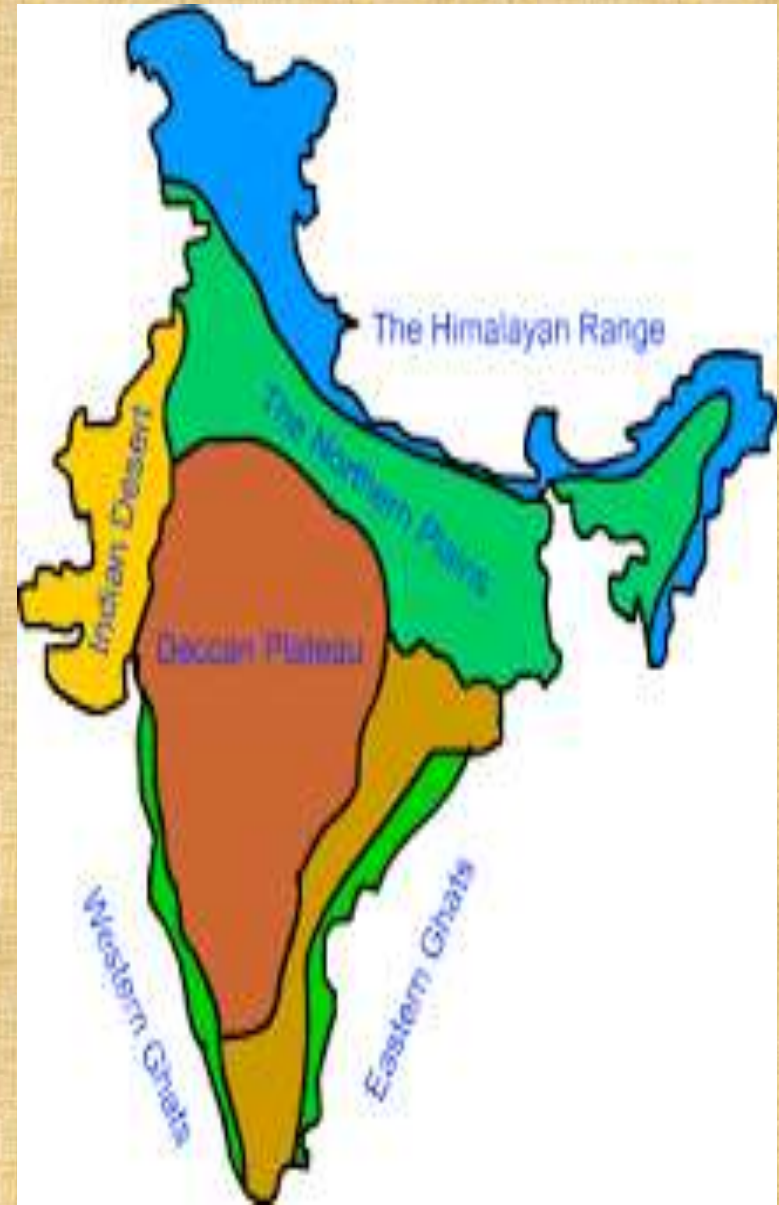
- **Khadar and Bhanghar are also two types of northern plains based on the renewability by the floods .**

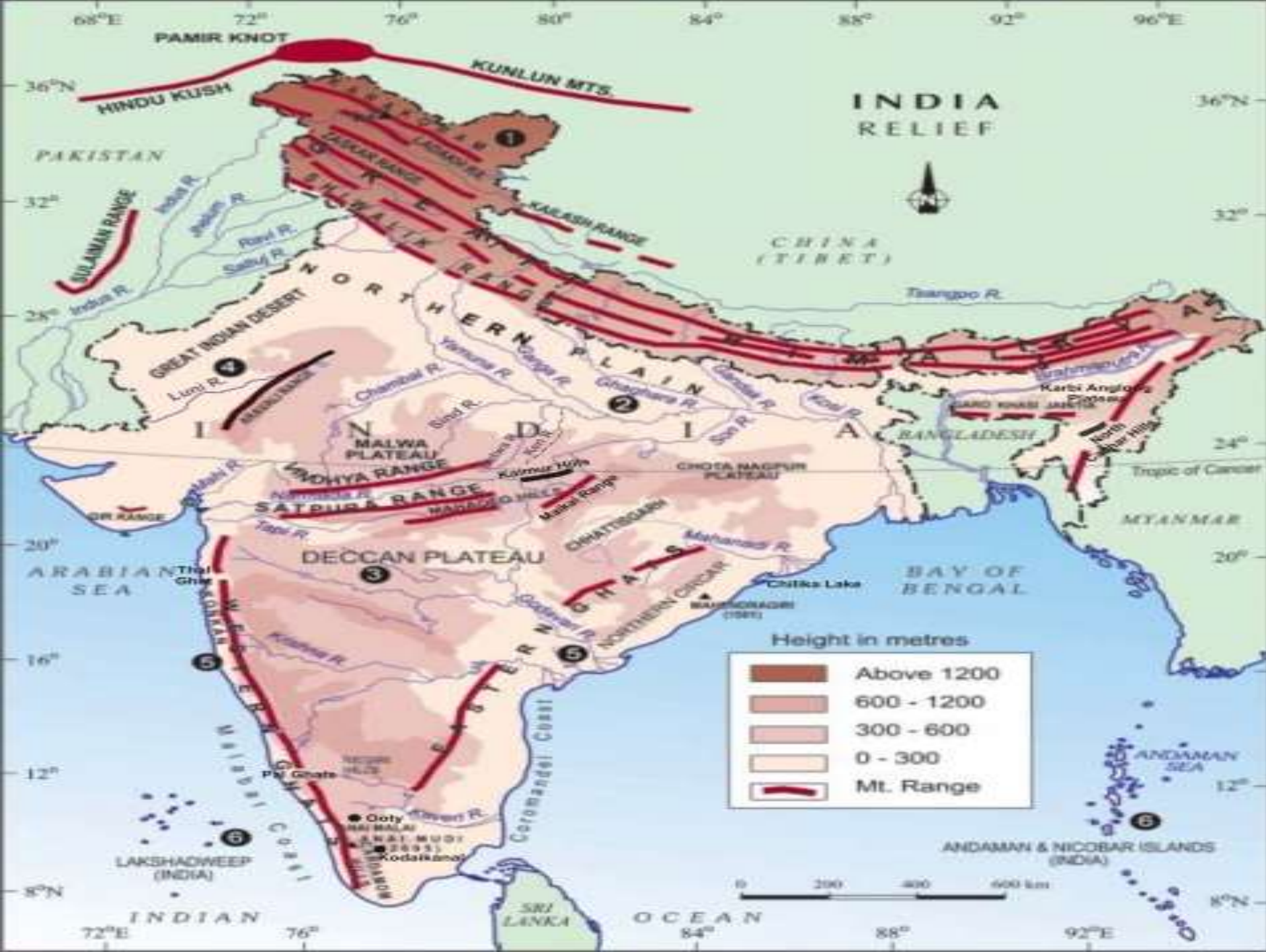
KHADAR	BHANGHAR
It is newer and younger deposits brought by rivers.	It is older deposits brought by rivers.
It contains the clayey material	It contains calcereous deposits called KANKARS
It is also called newer alluvium plain	It is also called older alluvium plain



HIMALAYAS

- Himalayas are the youngest fold mountains situated in north India.
- Its length is 2500 kms.
- This is the physical barrier which separates one physiographic divisions from the other.
- This act as a good climatic barrier as they provide obstruction to the moisture laden winds and cause rainfall.





- Himalayas are subdivided into following parts:
- **1. KASHMIR OR NORTH-WESTERN HIMALAYAS:**
- These Himalayas consist of Karakoram Range, Ladakh Range and Zaskar range.
- Siachen, Baltoro glaciers are there.
- These Himalayas are famous for KAREWAS. Karewas are thick deposits of glacial clay and other material embedded with moraines.
- These Himalayas are drained by river Indus and its tributary Jhelum, Chenab.
- Freshwater lakes like Dal and Wular lake are located here.
- These Himalaya are known for their scenic beauty and landscape. This scenic beauty act as points for tourist attractions.
- Places of pilgrimage like Vaishno Devi, Amarnath cave etc are located here.
- Southernmost part of these Himalayas consist of longitudinal valleys called DUNS. Example JAMMU DUN, PAHANKOT DUN etc.

- **2. HIMACHAL PRADESH AND UTTRAKHAND HIMALAYAS**

- These Himalayas are drained by two rivers that is river Indus, Ganga and its tributaries.
- Tributaries of Indus include Ravi, Beas and Sutlej.
- Tributaries of Ganga include Yamuna and Ghaghar river.
- Important hill stations like Mussoorie, Shimla are located here.
- Kedarnath, Badrinath are located in these Himalayas.

- **3. DARJELLING AND SIKKIM HIMALAYAS**

- These Himalayas are known for there highest peaks like Kanchenjunga and deep valleys as they are part of Great Himalayas.
- Due to moderate slope, thick soil cover, well distributed rainfall British introduced growing of various plantation crops like tea, coffee.
- These Himalayas are known for their scenic beauty because of rich flora and fauna and act as a point for tourist attraction.

- **4. ARUNACHAL HIMALAYAS**
- It extends from East of Bhutan to Dipu pass in Arunachal Pradesh.
- Important peak is Namcha Barwa.
- These Himalayas are dissected by fast flowing rivers like Brahmaputra.
- Because of Perennial nature of these rivers like Brahmaputra and its tributaries, these have potential for hydroelectric powers.
- These Himalayas are inhabited by tribes like Nagas.
- Most of the tribes perform Slash and Burn Agriculture or Jhumming in which after growing crops, part of land is burnt and left untouched for some time and crops are grown on other piece of land.
- **5.EASTERN HILLS:**
- These are low height hills inhabited by tribal people who practice jhumming.
- These hills are called Patkai Bum in north and Naga Hills, Mizo hills or Lushai hills in south.
- There is a large lake in these hills called Loktak lake surrounded by hills from all sides.
- These hills are drained mostly by the tributaries of Brahmaputra.